

NOX AFRICA STUDY

ver. 2023 Mar 12

Hypothesis:

A. Relationship Sleep Disorders (SD) & ADHD

1. ADHD suffer more from SD (OSAS, PLMs) than neurotypical children
2. SD in early children develops more risk of ADHD

B. H-PSG in ADHD

1. Feasibility
2. Quality
3. Caregiver's Satisfaction on H-PSG

Methods:

SAMPLE

- Retrospective analysis
- N = 363 PSG -> 341 children (16 children duplicate PSG i 3 children triplicate)
- Ages 2-17 yo
- H-PSG: jan 2018 to jun 2021
- Referred: NeuroPed, PsychoPed, Ped, ENT Surgeons

DEPENDENT VARIABLES

1. Feasibility (efficiency):
 - 1.1 % Failed studies
 - 1.2 % Epilepsy detection
2. Quality: > 5h hours of recording with adequate signal > 75%:
 - 2.1. SpO2Quality
 - 2.2. FlowQuality
 - 2.3. RIPQuality
 - 2.4. Global quality index
3. Satisfaction:
 - 3.1. Caregiver's Satisfaction VAS
 - 3.2. Children's Satisfaction VAS
 - 3.3. Caregiver's preference for hospital study VAS
4. PSG_Parameters:
 - 4.1. TST, Arousal index, Sleep efficiency, Sleep Latency, REM latency; awakenings

4.2. Sleep Stages: %R, %N1, %N2, %N3

5. SD_Diagnosis:

5.1. OSAS_Mild, OSAS_Mod, OSAS_Sev

5.2. PLMs > 5/h

5.3. Combined (OSAS + PLMs)

5.4. Normal

DEMOGRAPHIC VARIABLES

1. Age

2. Sex

3. Height

4. Weight

5. Main symptoms: Snoring, Night-time awakenings, Daytime fatigue, Leg jerks

6. Referred physician

FACTOR/GRUPED VARIABLES

1. ADD

2. ADHD

3. Epilepsy

4. Learning disabilities

5. Combined ADD + ADHA

6. Neurotypical

DESCRIPTIVE ANALYSIS

1. Demographic table

2. Factor characteristics

INFERENTIAL ANALYSIS

1. Differences in Feasibility, Quality, Satisfaction and PSG-Parameters among factors

A one-way ANOVA with independent groups

2. Differences in SD among factors

A one-way ANOVA with independent groups

3. Modified effect variables (age, gender?)

4. Associations between ADHA and SD

Chi-Square of association

Limitations/ Comments:

- Critical Definition of factors/groups

- Quality for PML signal?

- Sample: #PSG \neq #Children (Children studied several times)

- Sampling: sample selection bias:

1. population: 15% neurodiverse (85% neurotypical) vs sample of the study: ?

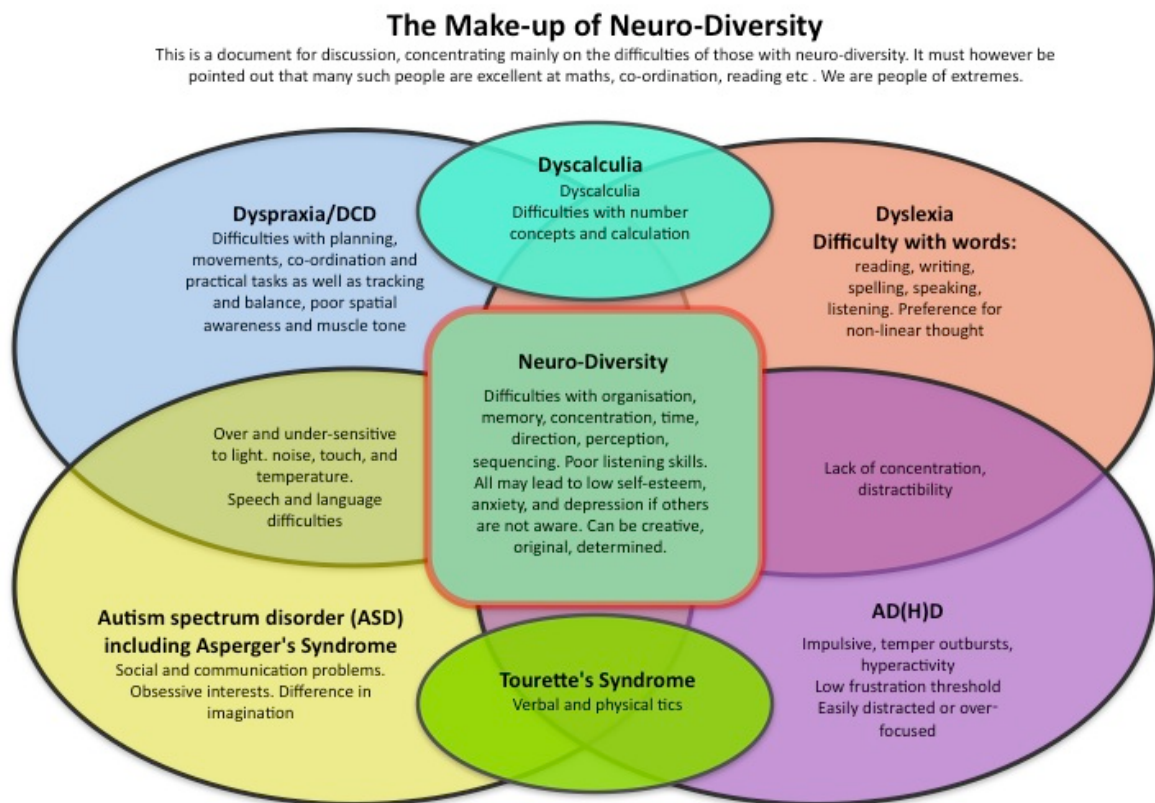
NeuroKnowHow.com

- ~8% of people in the UK are thought to have ADHD.
- ~10% of people in the UK are thought to have dyslexia.
- ~8% of people in the UK are thought to have dyspraxia.
- ~6% of people in the UK are thought to have dyscalculia.
- ~1% of people in the UK are thought to have an autistic spectrum condition.
- ~1% of people in the UK are thought to have Tourette's syndrome.

2. Gender differences population (3:1) vs sample

- Age of DX of neurodiverse condition (scholars \geq 4yo to 17yo) vs age of the sample starting at 2yo subjects

- Reference PSG-Parameters and by age (<10yo vs > 10yo)



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